Project Review Team Meeting #4

01.28.2010

URS

Meeting Agenda

- **Overall Project Update**
- **Ridership Forecasting Update**
  - Sensitivity Test Results
- **Cost Estimates**
- **Implementation Strategy for the Corridor Development Plans**
  - Governance Options
  - Funding Options
  - Near Term Implementation/Next Steps
- **Next Steps**

Sensitivity Tests:

"What might happen to ridership ... ?"

What might happen to ridership…

1. **... if selected highway projects are not built?**

2. **... if we assume the catchment areas for drive access are larger than the model default assumption of 8 miles?**

3. **... if we assume the wait time for commuter rail riders is less than the model default assumption of half the headway?**

4. **... between 2030 and 2035?**

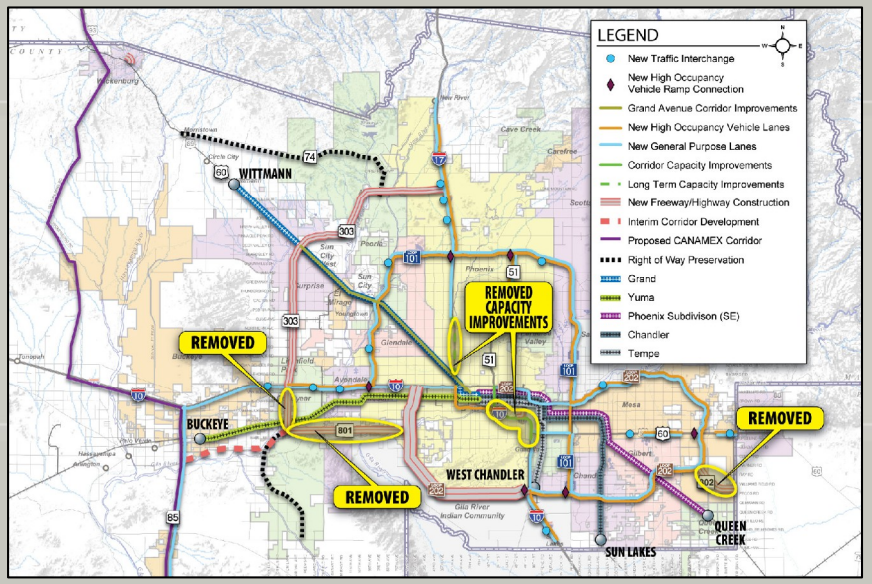
→ ***Looking for differences of 10% or greater. Changes of less than 10% are considered nominal and generally within normal model variation.***

What might happen to ridership…

1. … if selected highway projects are not built?

What We Did:

- Removed projects from network and reran model
- Compared results with and without projects



Results (% change without projects):

- SE: +10% (Removed SR-802)

Conclusion:

- In general, the planned highway projects do not substantially compete with commuter rail service.
- SE might see slightly higher ridership if the SR-802 project is not constructed.

1. ... if selected highway projects are not built?

Travel Time Comparison (End to End) in Minutes

Corridor	Commuter Rail	SOV with Highway Projects	SOV without Highway Projects
Grand	42	66	67 (+1 min)
Yuma	47	50	52 (+2 min)
SE	46	64	67 (+3 min)
Tempe	29	30	34 (+4 min)
Chandler	50	43	43

***Note SOV travel time is along the shortest path which might not necessarily be on the highway or interstate system.**

What might happen to ridership…

2. ... if we assume the catchment areas for drive access are larger than the model default assumption of 8 miles?

What We Did:

- Ran base model of all five base corridors with default assumption of 8 miles
- Changed model setting to 10 miles and reran the model
- Compared results for 10 miles vs. 8 miles

Results (% change with 10-mile assumption):

- No corridor with % change >= 10%

Conclusion:

- Changing the Drive Access assumption does not substantially influence ridership

What might happen to ridership…

3. … if we assume the wait time for commuter rail riders is less than the model default assumption of half the headway?

What We Did:

- Changed the model to simulate shorter wait times
- Compared results to ridership from five base corridors with 30/60 headways

Results (% change with 10/60 assumption):

- All corridors showed extremely high % changes

Conclusions:

- Wait time/headway substantially influences ridership in the model
- As the system matures and riders adjust their behavior to minimize overall travel times, ridership may increase.
- Corridors with shorter trip patterns (such as Tempe Corridor) would be more likely to see a greater increase in ridership in this test because wait times make up a larger component of the overall travel time.

What might happen to ridership…

4.... between 2030 and 2035?

What We Did:

- Ran base model of all five base corridors with 2030 socioeconomic data
- Ran same model with 2035 socioeconomic data
- Compared results for 2035 vs. 2030

Results (% change with 2035 socioeconomic data):

- Grand: +17%
- Yuma: +19%

Conclusion:

Grand and Yuma are likely to see a noticeable increase in ridership between 2030 and 2035 if development occurs as predicted.

Next Steps

- Complete Summit analysis (in progress)
- Complete documentation of methodology and results

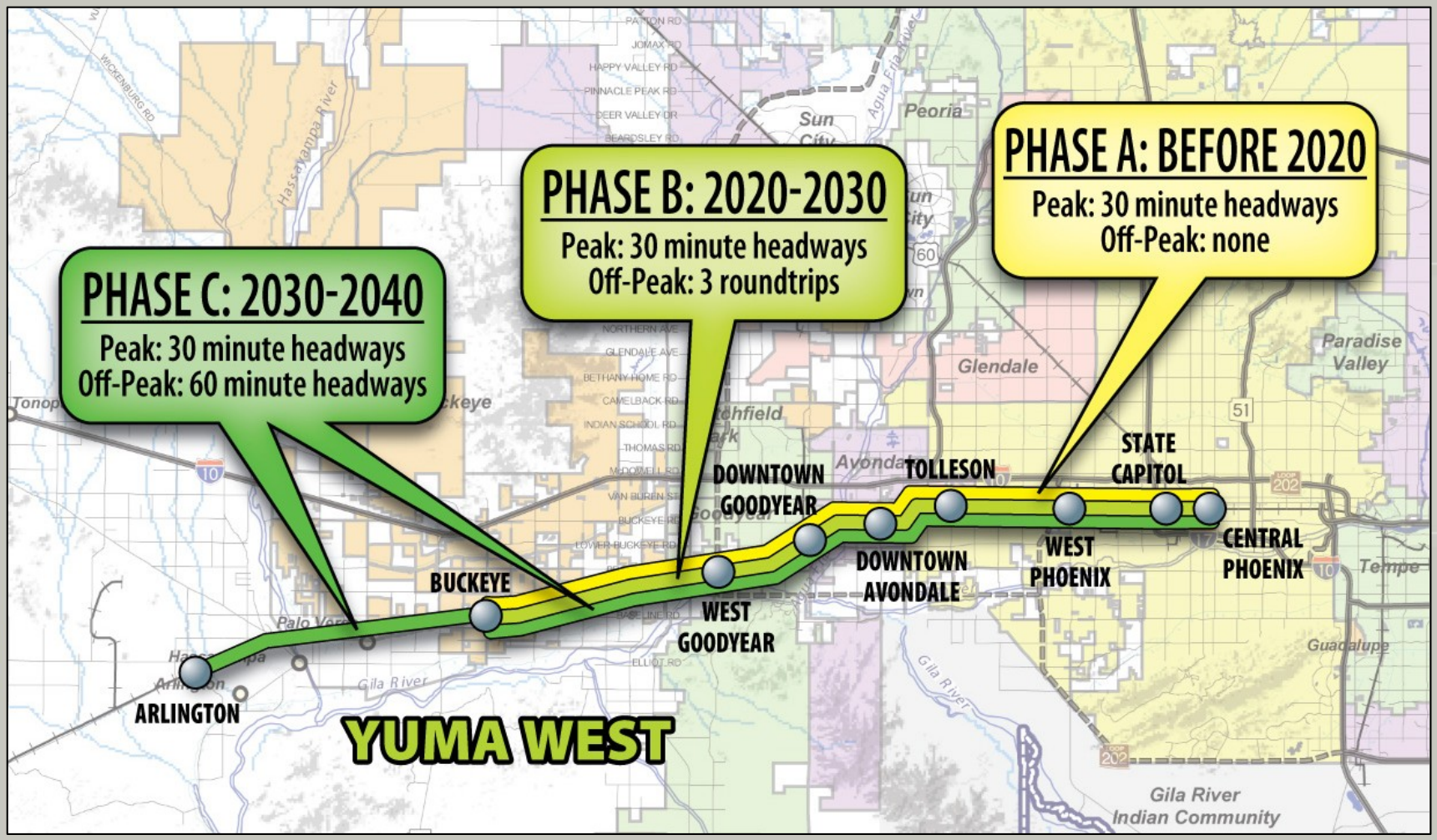
Cost Estimates

Cost Estimate Assumptions

- Based on a series of plan drawings within the study corridor and industry cost standards.
- Summarized into FTA standards and in 2009 dollars without inflation.
- Capital cost estimates do not assume the inclusion of freight rail improvements by UPRR.

Service Level/Facility Assumptions	Phase A	Phase B	Phase C
Corridor	Central Phoenix-Buckeye	Central Phoenix-Buckeye	Central Phoenix-Arlington
Route Miles	31	31	44
Stations	9	9	10
Fleet Size	5 locomotives 5 cab cars 5 coaches	5 locomotives 5 cab cars 5 coaches	7 locomotives 7 cab cars 7 coaches
Service Level	Peak:30-minute headways, one-way service	Peak:30-minute headways Off-Peak: 3 roundtrips	Peak: 30-minute Off-Peak: 60-minute
Service Days	Weekdays	Weekdays and Saturdays	Weekdays and Weekends

Yuma West Corridor – Proposed Phases



Capital Cost Estimates by Phase

Cost Element	Phase A ($000)	Phase B ($000)	Phase C ($000)
Guideway and Track Elements	60,888	2,675	22,553
Stations	56,631	0	9,691
Vehicles	46,856	0	18,743
Support Facilities (Layover and Maintenance)	32,630	0	130
Sitework and Special Conditions			
Demolition, Earthwork, Utilities	9,750	0	0
Environmental Mitigation	19,223	54	8,512
Automobile access/roads/parking lots	20,150	0	5,200
Other (retaining walls, pedestrian access)	4,598	54	1,102
Systems (Train Control and Traffic Crossings)	35,230	0	10,140
Right-of-Way	42,124	0	4,247
Professional Services and Contingency	74,121	862	17,772
Estimated Cost Increase over Previous Phase	402,201	+3,645	+98,090
Estimated Cost Increase over Previous Phase (90% of FTA Standards)	361,981	+3,280	+88,281
Total Estimated Cost (90% of FTA Standards)	**$361,981**	**$365,261**	**$453,542**
Average Cost per Route Mile for each Phase	**$11,677**	**$106**	**$2,006**

Annual Operating and Maintenance Cost Estimates by Phase

Yuma West Commuter Rail O&M Cost Estimate	
Phase	**O&M Cost**
A	**$3.8 million**
B	**$11.9 million**
C	**$28.1 million**

Peer City Capital Cost Comparison

Commuter Rail System	Capital Cost	Route Miles	Capital Cost per Rider
MAG Yuma West Corridor Phase B	Est.$365.2M	31	Est. $11.8M
Sounder –WA	$1.4B	83	$17.2M
Westside Express –OR	$166M	14.7	$11.3M
FrontRunner – UT	$954M	44	$21.7M
Northstar – MN	$289.1M	40	$7.2M

Peer City Annual Operating and Maintenance Costs

Commuter Rail System	Operating Expenses	Annual Boardings	Annual Operating Expenses per Rider
MAG Yuma West Corridor Phase B	Est.$11.9M	Est. 447,300	Est. $26.60
Sounder – Seattle, WA	$24.6M	2,156,652	$11.41
Sprinter – San Diego, CA	$17.8M	1,560,729	$11.40
Metrolink – Los Angeles, CA	$123.8M	12,018,859	$10.30
Caltrain Peninsula – San Francisco, CA	$74.8M	10,264,225	$7.29
Altamont Commuter Express – Stockton, CA	$10.9M	706,858	$15.42

Implementation Strategy

Implementation Strategy for the Corridor Development Plans

- Governance Options
- Funding Options
- Near-term Implementation/Next Steps

Governance Structure Considerations

- Commuter rail service area will expand beyond political boundaries of existing local transit service areas and potentially beyond MAG boundaries.
- Governance structure should reflect financial, political, and representational patterns of the areas served by commuter rail.
- Success factors include the ability of the institutional arrangement to:
  (1) balance local control with the need for regional system performance; and
  (2) provide stable funding opportunities.

Governance Structure Models

Regional Transit Authority or District (Multi-modal)	*Responsible for multi-modal services.*
Regional Transit Authority or District (Single	*Single provider of commuter rail service.*
Joint Powers Authority	*Sub-regional agreements among cities to contribute to the management of rail service in a common corridor.*
Division of State DOT	*More common in small states with one dominant metropolitan area.*
Division of MPO	*Less common.*

Regional Transit Authority/District (Multi-Modal)

Examples:

- Sound Transit District, Washington
- Tri-County Metropolitan District, Oregon

Advantages:

- Greater efficiencies & coordination between all transit modes
- Can provide inclusive authority to help developing/growing areas provide comprehensive transit service

Disadvantages:

- May lack focus
- Cumbersome political process to expand taxing authority
- Learning curve for RPTA to manage rail program

Regional Rail Authority/District (Single-Purpose)

Example:

- Sonoma-Marin Area Rail Transit, California

Advantages:

- Eliminates competition for resources being distributed among transit modes
- All funding partners equally represented

Disadvantages:

- Adds another entity to mix
- Requires close coordination with METRO & RPTA
- Unable to serve jurisdictions which do not vote to join, leaving gaps in representation/service.
- Greater cost and start-up time to form new authority

Joint Powers Authority

Examples:

- Peninsula Corridor Joint Powers Board, California
- South Florida Regional Transit Authority
- Virginia Railway Express

Advantages:

- Maximum flexibility
- Does not require legislative authority
- If METRO mission is expanded, JPA will benefit from similar rail expertise with LRT.

Disadvantages:

- Potential overlapping responsibilities within representative entities
- Each entity would be required to secure its own funding source & funding may be less stable
- May start “turf war”
- Would present a learning curve

Division of State Department of Transportation

Example:

- Maryland Transit Administration

Advantages:

- Could apply for funding from Federal programs that local entity may not be able to obtain
- Empower single railroad negotiator and greater coordination for unified statewide passenger rail service

Disadvantages:

- Institutional learning curve.
- May rely primarily on state legislative appropriations and priorities
- May bring into question equity between regions of the state
- Increases state influence over local/regional decisions

Division of Metropolitan Planning Organization

Example:

- New Mexico Mid-Region Council of Governments

Advantages:

- MAG could continue its role as lead implementation agency and pass-through funding entity

Disadvantages:

- Continued/greater collaboration and coordination among existing transit authorities
- Northern Pinal County is part of Central Arizona Association of Governments, or CAAG, (not within MAG region)
- Potential confusion within the MAG and CAAG transportation planning processes
- Requires expansion of MAG charter
- Requires establishment of new operational division within MAG

Funding Options

State Funds

- Highway User Revenue Funds
- Statewide Transportation Acceleration Needs (STAN) Account
- New Dedicated State Transportation Funding, e.g. Statewide Tax

Federal Funds (Requires Match)

- FTA Section 5307, Urbanized Formula
- FTA Section 5309, New Starts
- FHWA Congestion Mitigation and Air Quality (CMAQ) Funds
- FHWA Surface Transportation Program (STP)
- FRA Section 130, Grade Crossing Safety Improvements
- New Federal funding via Transportation Bill Authorization

Funding Options

Regional and Local Funds

- Maricopa County Transportation Excise Tax, e.g. currently regional half-cent sales tax
- Potential New Funding Opportunities
  - Payroll Tax
  - Motor Vehicle Sales Tax
  - Vehicle Rental Tax
  - Local Gas Tax
  - Vehicle Registration Fee

Public Value Capture

- Benefits Assessment Districts
- Tax Increment Financing (Not allowed in AZ)

Public Private Partnerships

Near Term Implementation Steps

Five Year Plan between 2010 and 2015

- Passage of enabling legislation relative to liability and indemnification
- Coordination with Railroad
  - Establish State-level point of contact with UPRR
  - Develop partnerships to investigate options for MOU
  - Advance the design and operating costs
- Initiate collaborative local planning efforts
- Identify funding commitments
- Initiate the process for federal funding
- Develop and implement governance plan
- Preserve future options

Long Term Implementation Steps

Longer Horizon, 2015+

- Formalize partnership with railroad
- Obtain committed funding sources
  - Federal
  - Local
- Design, construct, and operate initial commuter rail system
- Further planning to develop a seamless transportation system and meet regional sustainable goals

Next Steps

- Document and finalize all ridership results using model, sketch planning, and TSUB
- Address comments or requested changes to draft final report
- Present information related to study work to MAG committee structure

Questions and Discussion